

COMBUSTION AND FLAME

THE JOURNAL OF THE COMBUSTION INSTITUTE

VOLUME 119

NUMBER 1/2

OCTOBER 1999

Contents

- HENNING RICHTER, WILLIAM J. GRIECO, and JACK B. HOWARD (Cambridge, MA)
Formation Mechanism of Polycyclic Aromatic Hydrocarbons and Fullerenes in Premixed Benzene Flames 1
- RICCARDO AZZONI, STEFANO RATTI, SURESH K. AGGARWAL, and ISHWAR K. PURI (Chicago, IL)
The Structure of Triple Flames Stabilized on a Slot Burner 23
- J. M. TIZÓN, J. J. SALVÁ, and A. LIÑÁN (Madrid, Spain)
Wind-Aided Flame Spread Under Oblique Forced Flow 41
- GEORGE W. MULHOLLAND and RAYMOND D. MOUNTAIN (Gaithersburg, MD)
Coupled Dipole Calculation of Extinction Coefficient and Polarization Ratio for Smoke Agglomerates. 56
- BENOIT BÉDAT (Toulouse, France), FOKION N. EGOLFOPOULOS (Los Angeles, CA), and
THIERRY POINSOT (Toulouse, France)
Direct Numerical Simulation of Heat Release and NO_x Formation in Turbulent Nonpremixed Flames 69
- BURT W. ALBERS and AJAY K. AGRAWAL (Norman, OK)
Schlieren Analysis of an Oscillating Gas-Jet Diffusion Flame 84
- C. P. BURGESS and C. J. LAWN (London, UK)
The Premixture Model of Turbulent Burning to Describe Lifted Jet Flames 95
- R. D. LOCKETT, B. BOULANGER, S. C. HARDING, and D. A. GREENHALGH (Cranfield Beds, UK)
The Structure and Stability of the Laminar Counter-flow Partially Premixed Methane/Air Triple Flame 109
- PAUL E. DESJARDIN and STEVEN H. FRANKEL (West Lafayette, IN)
Two-Dimensional Large Eddy Simulation of Soot Formation in the Near-Field of a Strongly Radiating
Nonpremixed Acetylene-Air Turbulent Jet Flame 121
- P. H. BOUMA and L. P. H. DE GOEY (Eindhoven, The Netherlands)
Premixed Combustion on Ceramic Foam Burners 133
- M. FÖRSTH, F. GUDMUNDSON, J. L. PERSSON, and A. ROSÉN (Göteborg, Sweden)
The Influence of a Catalytic Surface on the Gas-Phase Combustion of H₂ + O₂ 144
- S. C. LEE (Hong Kong, R.O.C.), C. P. KOSHLAND, D. LUCAS, and R. F. SAWYER (Berkeley, CA)
Effect of Postflame Injection of Fuel on the Destruction of Chlorinated Hydrocarbons and the
Oxidation of NO 154
- A. V. MOKHOV, A. P. NEFEDOV, B. V. ROGOV, V. A. SINEL'SHCHIKOV, A. D. USACHEV,
A. V. ZOBININ (Moscow, Russia), and H. B. LEVINSKY (Groningen, The Netherlands)
CO Behavior in Laminar Boundary Layer of Combustion Product Flow 161
- THORSTEN SELL, SERGEY VYAZOVKIN, and CHARLES A. WIGHT (Salt Lake City, UT)
Thermal Decomposition Kinetics of PBAN-Binder and Composite Solid Rocket Propellants. 174
- M. B. DAVIS and L. D. SCHMIDT (Minneapolis, MN)
The Seeding of Methane Oxidation 182
- AHMAD R. SHOUMAN (Las Cruces, NM)
Solution to the Dusty Gas Explosion Problem With Reactant Consumption Part I: The Adiabatic Case 189

Brief Communications

P. Q. E. CLOTHIER and H. O. PRITCHARD (Toronto, Canada) Isolation of Diesel-Fuel Ignition Inhibitors in Reverse Micelles.	195
K. A. WATSON, K. M. LYONS (Raleigh, NC), J. M. DONBAR and C. D. CARTER (Dayton, OH) Observations on the Leading Edge in Lifted Flame Stabilization.	199

VOLUME 119

NUMBER 3

NOVEMBER 1999

TRAN X. PHUOC and FREDRICK P. WHITE (Pittsburgh, PA) Laser-Induced Spark Ignition of CH ₄ /Air Mixtures	203
J. K. BECHTOLD (Newark, NJ), and M. MATALON (Evanston, IL) Effects of Stoichiometry on Stretched Premixed Flames	217
S. M. CANNON, B. S. BREWSTER, and L. D. SMOOT (Provo, UT) PDF Modeling of Lean Premixed Combustion Using <i>In Situ</i> Tabulated Chemistry	233
L. P. H. DE GOEY and J. H. M. ten THIJE BOONKKAMP (Eindhoven, The Netherlands) A Flamelet Description of Premixed Laminar Flames and the Relation with Flame Stretch	253
E. L. DREIZIN, D. G. KEIL, W. FELDER, and E. P. VICENZI (Princeton, NJ) Phase Changes in Boron Ignition and Combustion	272
A. G. BAKROZIS, D. D. PAPAILIOU, and P. KOUTMOS (Patras, Greece) A Study of the Turbulent Structure of a Two-Dimensional Diffusion Flame Formed Behind a Slender Bluff-Body	291
D. DOUGLAS THOMSEN, F. FRANK KULIGOWSKI, and NORMAND M. LAURENDEAU (West Lafayette, IN) Modeling of NO Formation in Premixed, High-Pressure Methane Flames.	307
E. BOURGUIGNON, M. R. JOHNSON, and L. W. KOSTIUK (Alberta, Canada) The Use of a Closed-Loop Wind Tunnel for Measuring the Combustion Efficiency of Flames in a Cross Flow	319
D. KARMED, M. CHAMPION, and P. BRUEL (Cedex, France) Two-Dimensional Numerical Modeling of a Turbulent Premixed Flame Stabilized in a Stagnation Flow	335
Y. TAN, C. G. FOTACHE, and C. K. LAW (Princeton, NJ) Effects of NO on the Ignition of Hydrogen and Hydrocarbons by Heated Counterflowing Air	346
MASAHIRO SAITO, TOSHIHIRO ARAI, and MASATAKA ARAI (Kiryu, Japan) Control of Soot Emitted from Acetylene Diffusion Flames by Applying an Electric Field	356
S. C. LI, F. A. WILLIAMS (La Jolla, CA), and K. GEBERT (San Diego, CA) A Simplified, Fundamentally Based Method for Calculating NO _x Emissions in Lean Premixed Combustors	367

S. G. DAVIS, C. K. LAW (Princeton, NJ), and H. WANG (Newark, DE) Propene Pyrolysis and Oxidation Kinetics in a Flow Reactor and Laminar Flames	375
ALEXEI M. KHOKHLOV and ELAINE S. ORAN (Washington, DC) Numerical Simulation of Detonation Initiation in a Flame Brush: The Role of Hot Spots.	400
K. H. LUO (London, UK) Combustion Effects on Turbulence in a Partially Premixed Supersonic Diffusion Flame	417
H. G. IM and J. H. CHEN (Livermore, CA) Structure and Propagation of Triple Flames in Partially Premixed Hydrogen-Air Mixtures	436
JOHN MANTZARAS and PETER BENZ (Villigen-PSI, Switzerland) An Asymptotic and Numerical Investigation of Homogeneous Ignition in Catalytically Stabilized Channel Flow Combustion	455
M. H. MORSY, Y. S. KO, and S. H. CHUNG (Seoul, Korea) Laser-Induced Ignition Using a Conical Cavity in CH ₄ -Air Mixtures	473
DONGHEE HAN and M. G. MUNGAL (Stanford, CA), V. M. ZAMANSKY, and T. J. TYSON (Irvine, CA) Prediction of NO _x Control by Basic and Advanced Gas Reburning Using the Two-Stage Lagrangian Model	483
PHILIPPE DAGAUT, FRANCK LECOMTE, SÉBASTIEN CHEVAILLER, and MICHEL CATHONNET (Orléans Cedex, France) The Reduction of NO by Ethylene in a Jet-Stirred Reactor at 1 Atm: Experimental and Kinetic Modelling	494
C. TREVIÑO (México D.F., México), J. C. PRINCE and J. TEJERO (Veracruz, Mexico) Catalytic Ignition of Dry Carbon Monoxide in a Stagnation-point Flow	505
Author Index	513
Subject Index	526
Volume Contents	